

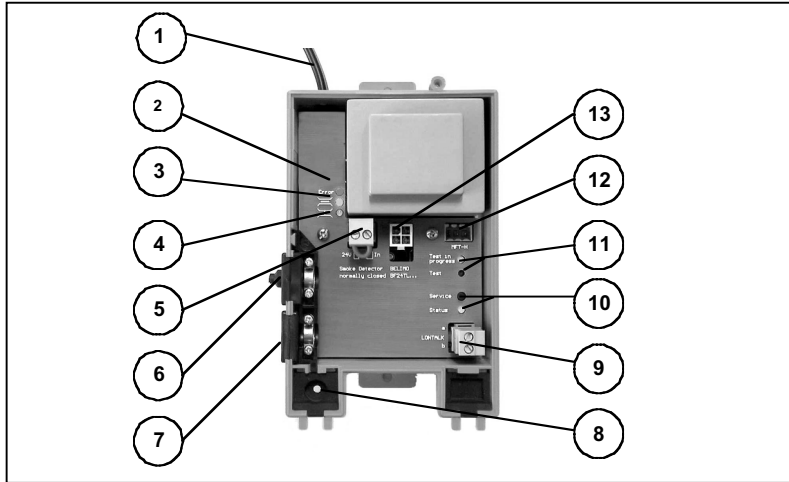


# BKN230-24LON

Communication and Power Supply Unit for Top-Line Fire & Smoke Actuators for LONWORKS® applications



## Signalling and Diagnostic Functions



- 1 Mains power input, 230 V AC
- 2 LED Error (red)
- 3 LED Damper open (green)
- 4 LED Damper closed (yellow)
- 5 Terminal for additional contact (NC), e.g. smoke detector
- 6 Cable entry, e.g. for smoke detector
- 7 Cable entry, e.g. for LONWORKS® network
- 8 Cable entry for Belimo actuator
- 9 Connector for LONWORKS® network
- 10 Status LED, yellow; Service button (LONMARK®)
- 11 Test button and Test LED, yellow
- 12 Connector for Top-Line F&S PC-Tool
- 13 Connector for Belimo Top-Line Fire & Smoke Actuator

## Signalling

Display	Colour	Status	Function
	green	flashing on	Damper OPENING Damper OPEN
	yellow	flashing on	Damper CLOSING Damper CLOSED
Error	red	flashing on	Existing fault MP communication fault
Status LED (LONMARK)	yellow	on flashing off	No user software loaded Not configured (factory setting) Configured (normal operation)
Test	yellow	on	Test in progress

### Test Function

Holding the test button depressed for at least 3 seconds will initiate a test sequence. The test button is accessible through a hole and can be pressed with the aid of a thin tool.

### Service

If the LonWorks® node has not been configured the actuator can be opened and closed by pressing the test button.

In the configured state, however, pressing the test button will always initiate a test sequence.

### Flashing

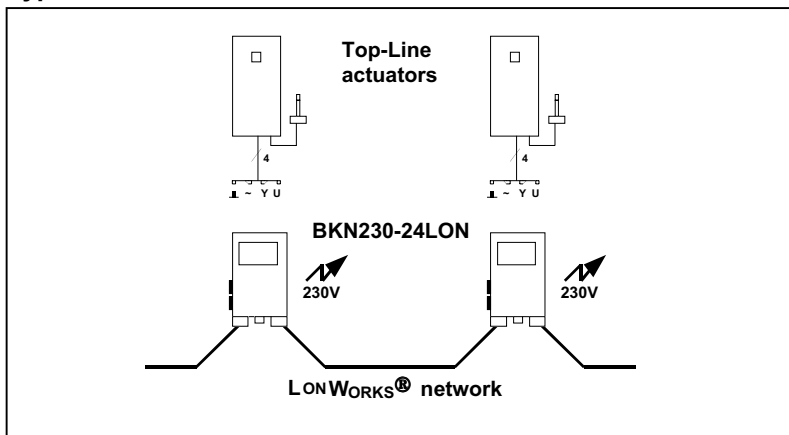
The LED's for error, damper open and damper closed flash for approximately 7 seconds when necessary. Repeated flashing does not extend the flashing time.

### Factory Settings

The BKN230-24LON unit is not configured before delivery.

The unit can be configured manually by applying mains power and pressing the service button for 3 to 10 seconds.

## Typical Installation



### Note

Topology:

The FTT 10-A transceiver is suitable for all forms of topology (bus, star, ring, etc.).

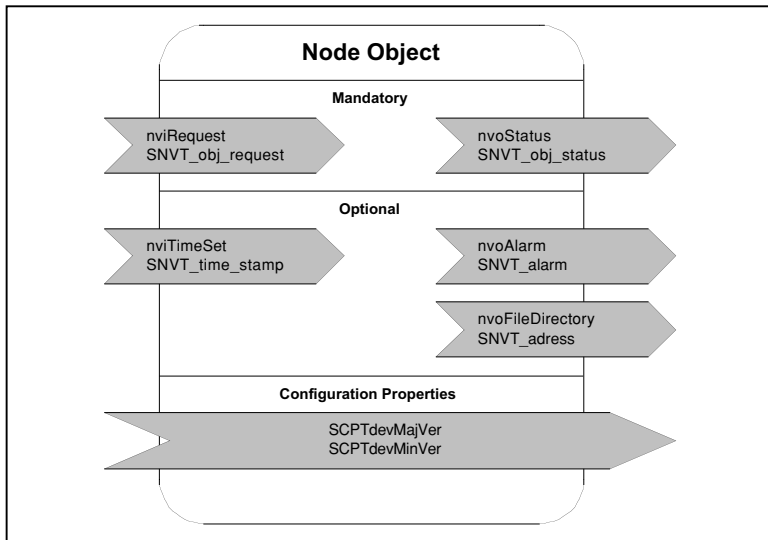
For safety reasons Belimo recommends that motorized fire and smoke dampers only be used on separate networks (channels).

Addressing:

The bus node address (fixed) is stored in the BKN230-24LON unit. This means that no re-addressing or system resetting is necessary when replacing a Top-Line actuator.

## Functional Profile

(Note: For more detailed information refer to the LonMark® web-site)

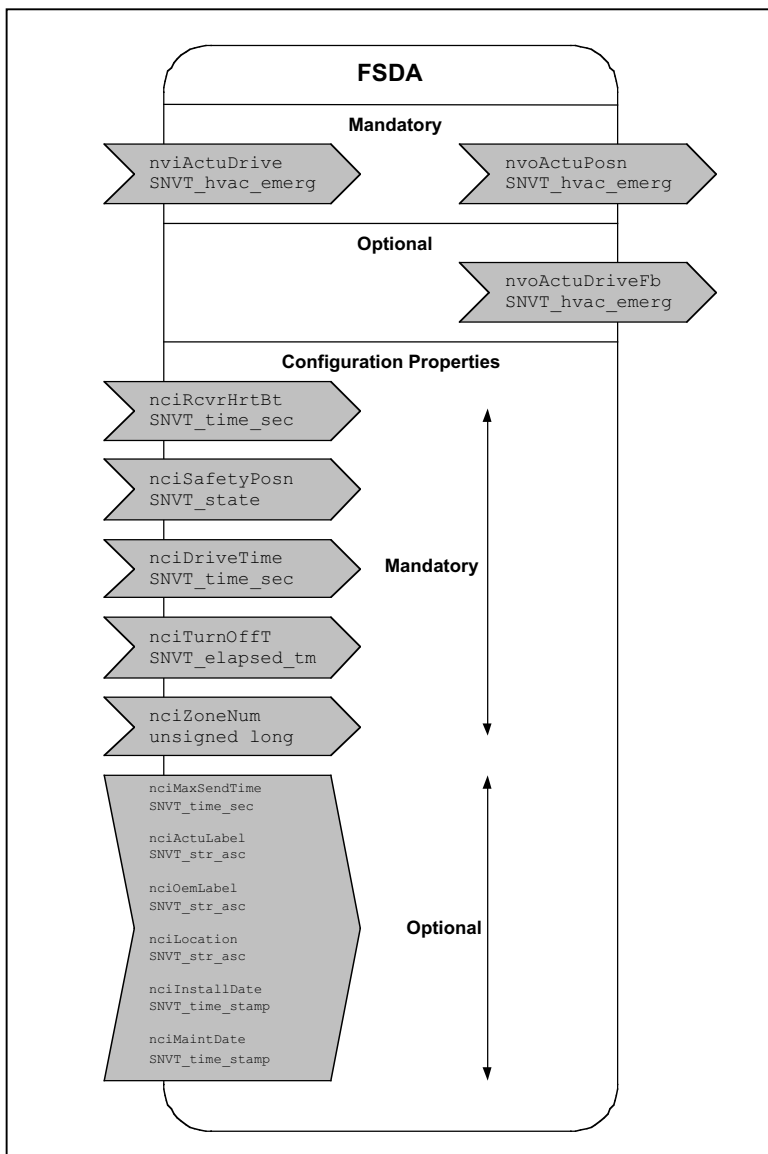


### Node Object (#0)

<http://www.lonmark.org/press/download/LYR732.pdf>  
Implementing the two standard network variables "Request" and "Status" in the node object is mandatory.

**nviRequest SNVT\_obj\_request**  
Input variable to request the status of the actuator. Can also be used to initiate the test function. Testing is only possible if the damper is in the open position (after the nviActuDrive command).

**nvoStatus SNVT\_obj\_status**  
Output variable indicating the actual status of the actuator.



### Fire/Smoke Damper Actuator Object (FSDA # 11001\_10)

[http://www.lonmark.org/press/download/11001\\_10.pdf](http://www.lonmark.org/press/download/11001_10.pdf)  
Implementing the two standard network variables "ActuDrive" and "ActuPosn" in the FSDA object is mandatory.

**nviActuDrive SNVT\_hvac\_emerg**  
Controls actuator position.

**nvoActuPosn SNVT\_hvac\_emerg**  
Reflects the actuator position.

**nciRcvrHrtBt SNVT\_time\_sec**  
Sets the maximum time that may expire before the actuator automatically goes to the fail-safe position. For safety reasons a time window of 60...300 s is recommended.

**nciDriveTime SNVT\_time\_sec**  
Contains the motor drive time set in the actuator.

**nciTurnOffTime SNVT\_elapsed\_tm**  
Contains the turn-off time of the actuator.

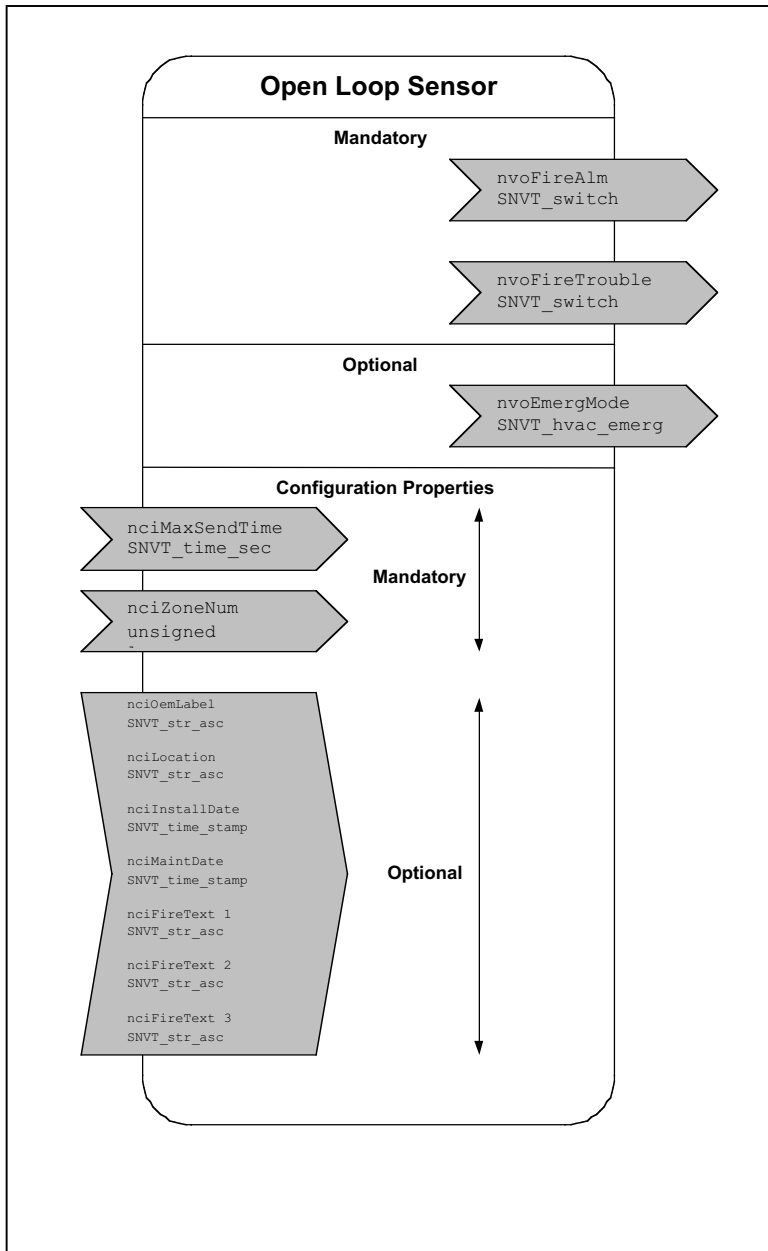
**NciZoneNum, nciInstallDate und nciMaintDate**  
Information can be stored in the BKN230-24LON unit (via the system integrator).

**nciOemLabel SNVT\_str\_asc**  
OEM string stored in the actuator (Contents: e.g. damper type, tripping temperature, etc.).

**nciLocation SNVT\_str\_asc**  
Location string stored in the actuator (Contents: Location position, fire zone, etc.).

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## Open Loop Sensor Object (fire, smoke)

[http://www.lonmark.org/press/download/11003\\_01.pdf](http://www.lonmark.org/press/download/11003_01.pdf)  
Implementing the two standard network variables "FireAlm" and "FireTrouble" in the OLS object is mandatory.

For each fire and smoke damper actuator the following 3 sensor values are monitored:

- duct temperature
- duct exterior temperature
- status of additional sensor contact (e.g. smoke detector)

### **nvoFireAlm**                      **SNVT\_switch**

Transmits the fire information of the 3 sensor values in case of a fire alarm condition.

### **nvoFireTrouble**                      **SNVT\_switch**

Indicates any initiator failure condition that can be detected by the device

### **nvoEmergMode**                      **SNVT\_hvac\_emerg**

For direct control of a FSDA. OR function of the nvoFireAlm states.

### **nciMaxSendTime**                      **SNVT\_time\_sec**

Defines the maximum period of time in which the "nvoFireAlm" must be sent.

For safety reasons a time window of 60...300 s is recommended..

### **NciZoneNum, nciInstallDate und nciMaintDate**

Information can be stored in the BKN230-24LON unit (via the system integrator).